

Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
October 2000

This report summarizes Los Alamos National Laboratory (LANL) activities completed during October of fiscal year (FY) 2001 on the CMS for PRS 16-021(c), the 260 outfall. Both the activities described in the CMS plan ([LA-UR-98-3918]), which was submitted to the New Mexico Environment Department-Hazardous Waste Bureau [NMED-HWB] on 9/30/98, and approved by NMED-HWB on 9/8/99), and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The 260 HPT met on October 16, 2000. The HPT met to review on-going activities and discuss upcoming issues.

The HPT briefly discussed the HPT matrix schedule. NMED personnel will circulate this to the HPT for update.

LANL personnel reviewed the status of ongoing activities including the Interim Measure (IM), the hydrogeologic studies, and the deep drilling. Most of this project-specific information is contained in the bodies of the September and October CMS Progress Reports.

LANL personnel updated the HPT on the status of the pilot studies including the composting study, the W.R. Grace study, and the Stormwater Management study (see CMS Bench and Pilot studies section below). LANL personnel noted that a determination of what treatment level would be required to deactivate soils from the pond prior to off-site land disposal would be required soon. The Surface Water Bureau is currently reconsidering the 401/404 application for the Stormwater Management study. LANL personnel requested that NMED personnel inquire about this application and try to expedite its progress. Draft study plans for phytoremediation studies and stabilization studies were provided to the team for informal review. LANL personnel will provide these electronically to the HPT.

HPT personnel continued the discussion of Temporary Authorization (TA) versus permitting for HE soil treatment. HWB personnel will discuss this issue internally and get back to the HPT. Team members will discuss this issue again at the next meeting.

Discussions of points of compliance (POCs) and Media Cleanup Standards (MCSs) were continued. LANL reviewed the information on this topic in the CMS Plan, which emphasizes a risk-based approach to both POCs and MCSs.

The next meeting is scheduled for Monday December 4, 2000. Agenda items will include continued discussions of TAs, POCs, and MCSs and potentially a joint meeting with the ecorisk HPT.

RCRA Facility Investigation (RFI) Report and CMS Plan– No new activities occurred during this reporting period.

Best Management Practices (BMPs)– BMPs were inspected daily during on-going fieldwork. During site restoration at the 260 outfall, several new BMPs were installed including jute matting on the banks of the pond excavation, three new rock dams in the upper drainage, and covering the upper portions of the excavation with decontaminated rocks. No repairs were required this month.

CMS Hydrogeologic Investigations–CMS hydrogeologic investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program included collecting samples at Burning Ground, Sanitary Waste Consolidation System (SWSC) and Martin springs every other day for bromide, other anions, and stable isotopes. Data from the spring and well dataloggers was downloaded weekly. No new bromide breakthrough has been observed in samples to date. The flow in the springs and in Cañon de Valle increased significantly during October, presumably due to the significant precipitation observed during this month.

The wells, both alluvial and deep, were checked weekly for both presence and level of water. Four of the five alluvial wells contained water; the exception is still alluvial well 2655, which is located in the steam plant drainage. All alluvial wells showed an increase in water level during the latter half of October. Intermediate-depth borehole 16-2665, which is located at the head of Martin Spring Canyon, also contained water during the latter half of the month. Inasmuch as this location had not been sampled during the fall quarterly sampling event, a quarterly sample was collected and submitted for laboratory analysis. The Canon de Valle hydrologic system appears to be becoming wetter, particularly in response to the 44 mm. of precipitation (as measured at the Water Canyon meteorological station) that fell from October 22 through October 24, 2000.

In October, six samples from precipitation events were collected and archived for analysis.

Site restoration and demobilization activities were begun at CdV-R-15-3. The wellhead concrete surface installation, removal of the site fence and other support facilities, site regrading, and some waste disposition were all completed

Ecological Risk Pilot–

The LANL ecological risk team met with portions of the 260 Team to discuss ecological data needs for FY 01.

CMS Bench and Pilot Studies—Bench and pilot studies continued in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Six studies are now ongoing under the auspices of ITRD, all of which may benefit the PRS 16-021(c) CMS:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. A study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment.
5. A study of HE composting. Amendments appropriate to northern New Mexico are being tested on both clean and contaminated soils.
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle.
7. Phytoremediation studies in Cañon de Valle.

The HE-composting pilot study using clean and TA-16-260 soils was continued. A building at TA-11 was obtained in an attempt to solve the problems thought to be due to diurnal temperature variation. Preliminary results suggest that this problem has been solved. Temperatures are elevated and have been holding steady. However, odors associated with the compost have disturbed TA-11 site residents. The operating group has requested an evaluation of the odors associated with this process.

An on-site pilot study of the W.R. Grace process on these same soils was also continued. The W.R. Grace process decreased HE concentrations from greater than 2% HE to less than 0.5 % HE.

Interim Measure (IM) –

Activities at the TA-16-260 IM were limited during October due to the fact that HE machining occurred on several Fridays during the month, and because significant weekend precipitation kept the field team from working on two occasions.

The primary IM activities were site restoration and demobilization tasks including: surveying of screening and confirmatory sampling localities, seeding of the pond banks and other disturbed localities, installation of rock dams and rock erosion control in the excavated drainage, installation of the bentonite hydrologic barrier in the pond area, lining the drainage banks with jute matting, and decontamination and demobilization of equipment.

Public and Stakeholder Involvement— No activities during this reporting period.

Percentage of CMS Completed

LANL estimates 65% of the CMS has been completed to date. Note that this percentage does not reflect the deep wells that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

General Problem (1) The Cerro Grande fire has severely impacted the 260 RFI/CMS activities. These problems have been discussed in detail in previous monthly reports.

Action to Rectify General Problem (1): LANL will work closely with NMED through the HPT to mitigate the effects of the Cerro Grande fire.

CMS Hydrogeologic Investigations

Problem (1): Questions relating to the quality of data from well R-25 remains a significant concern to the TA-16-260 team.

Action to Rectify Problem (1): LANL will evaluate the data from the quarterly sampling of the R-25 well to evaluate its reliability.

Problem (2) The autosamplers in the three springs have operated poorly since the Cerro Grande fire. There are frequent distributor-arm-fault interruptions causing the sampler to cease operation. In addition, spurious noise generated by the ultrasonic flow loggers continues to cause problems with accurately metering spring flow.

Action to Rectify Problem (2): The IT field team maintains the autosamplers as needed. These problems are currently handled during a sampling period by intensively managing the samplers manually. Solutions to the technical problems are being pursued.

CMS Bench and Pilot Studies

Problem (1) The HE-bearing composting test is not generating thermophilic conditions as anticipated.

Action(s) to Rectify Problem (1). The composting pilot is being moved indoors to a heated facility.

IM

Problem (1) The lack of success of the HE-bearing composting test may complicate waste disposal for the IM.

Action(s) to Rectify Problem (1) LANL will continue to refine the composting tests. Additional waste disposal options are being investigated.

Key Personnel Issues

None.

Projected Work for October 2000

RFI Report and CMS Plan

- No work is scheduled for this month.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Maintenance of autosamplers
- Continued bromide sampling of springs
- Weekly checking for levels and presence of water in alluvial and deep wells.
- Sampling of flow-integrated autosamplers
- Continued precipitation monitoring and sampling for stable isotopes.
- Data analysis
- Quarterly sampling at CdV-R-15-3
- Stream profile (if stream flow increases)

Ecological Risk Pilot

- The ecorisk team will discuss the study plan for biota sampling in Canon de Valle with the HPT.

CMS Bench and Pilot Studies

- Management of composting and Daramend (W.R. Grace) tests on HE-bearing materials.

- Preparation for deployment of Stormwater Management units

IM

- Site restoration
- Data analysis and preparation for completion of IM Report
- Waste management

Public and Stakeholder Involvement

No activities planned.